



## SEQUENCE LISTING

<110> Brisson, Dominique P.  
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Huang, Xicai  
Beliveau, Richard

<120> LONG LASTING ANTI-ANGIOGENIC PEPTIDES

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<140> US 09/623,543

<141> 2000-09-05

<150> PCT/IB00/00763

<151> 2000-05-17

<150> 60/134,406

<151> 1999-05-17

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|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Cys | Glu | Glu | Asp | Glu | Glu | Phe | Thr | Cys | Arg | Ala | Phe | Gln | Tyr | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Lys | Glu | Gln | Gln | Cys | Val | Ile | Met | Ala | Glu | Asn | Arg | Lys | Ser | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Ile | Ile | Arg | Met | Arg | Asp | Val | Val | Leu | Phe | Glu | Lys | Lys | Val | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Ser | Glu | Cys | Lys | Thr | Gly | Asn | Gly | Lys | Asn | Tyr | Arg | Gly | Thr | Ser |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Thr | Lys | Asn | Gly | Ile | Thr | Cys | Gln | Lys | Trp | Ser | Ser | Thr | Ser | Pro |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |
| His | Arg | Pro | Arg | Phe | Ser | Pro | Ala | Thr | His | Pro | Ser | Glu | Gly | Leu | Glu |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |
| Glu | Asn | Tyr | Cys | Arg | Asn | Pro | Asp | Asn | Asp | Pro | Gln | Gly | Pro | Trp | Cys |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Tyr | Thr | Thr | Asp | Pro | Glu | Lys | Arg | Tyr | Asp | Tyr | Cys | Asp | Ile | Leu | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Cys | Glu | Glu | Glu | Cys | Met | His | Cys | Ser | Gly | Glu | Asn | Tyr | Asp | Gly | Lys |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Ser | Lys | Thr | Met | Ser | Gly | Leu | Glu | Cys | Gln | Ala | Trp | Asp | Ser | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Pro | His | Ala | His | Gly | Tyr | Ile | Pro | Ser | Lys | Phe | Pro | Asn | Lys | Asn |

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|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Leu | Lys | Asn | Tyr | Cys | Arg | Asn | Pro | Asp | Arg | Glu | Leu | Arg | Pro | Trp |     |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Cys | Phe | Thr | Thr | Asp | Pro | Asn | Lys | Arg | Trp | Glu | Leu | Cys | Asp | Ile | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Arg | Cys | Thr | Thr | Pro | Pro | Pro | Ser | Ser | Gly | Pro | Thr | Tyr | Gln | Cys | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Gly | Thr | Gly | Glu | Asn | Tyr | Arg | Gly | Asn | Val | Ala | Val | Thr | Val | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gly | His | Thr | Cys | Gln | His | Trp | Ser | Ala | Gln | Thr | Pro | His | Thr | His | Asn |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Arg | Thr | Pro | Glu | Asn | Phe | Pro | Cys | Lys | Asn | Leu | Asp | Glu | Asn | Tyr | Cys |
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| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Val | Arg | Trp | Glu | Tyr | Cys | Lys | Ile | Pro | Ser | Cys | Asp | Ser | Ser | Pro |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Ser | Thr | Glu | Gln | Leu | Ala | Pro | Thr | Ala | Pro | Pro | Glu | Leu | Thr | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Val | Val | Gln | Asp | Cys | Tyr | His | Gly | Asp | Gly | Gln | Ser | Tyr | Arg | Gly | Thr |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Ser | Thr | Thr | Thr | Thr | Gly | Lys | Lys | Cys | Gln | Ser | Trp | Ser | Ser | Met |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Thr | Pro | His | Arg | His | Gln | Lys | Thr | Pro | Glu | Asn | Tyr | Pro | Asn | Ala | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu | Thr | Met | Asn | Tyr | Cys | Arg | Asn | Pro | Asp | Ala | Asp | Lys | Gly | Pro | Trp |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Cys | Phe | Thr | Thr | Asp | Pro | Ser | Val | Arg | Trp | Glu | Tyr | Cys | Asn | Leu | Lys |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Lys | Cys | Ser | Gly | Thr | Glu | Ala | Ser | Val | Val | Ala | Pro | Pro | Pro | Val | Val |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Leu | Leu | Pro | Asp | Val | Glu | Thr | Pro | Ser | Glu | Glu | Asp | Cys | Met | Phe | Gly |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Asn | Gly | Lys | Gly | Tyr | Arg | Gly | Lys | Arg | Ala | Thr | Thr | Val | Thr | Gly | Thr |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Pro | Cys | Gln | Asp | Trp | Ala | Ala | Gln | Glu | Pro | His | Arg | His | Ser | Ile | Phe |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Thr | Pro | Glu | Thr | Asn | Pro | Arg | Ala | Gly | Leu | Glu | Lys | Asn | Tyr | Cys | Arg |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Asn | Pro | Asp | Gly | Asp | Val | Gly | Gly | Pro | Trp | Cys | Tyr | Thr | Thr | Asn | Pro |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |
| Arg | Lys | Leu | Tyr | Asp | Tyr | Cys | Asp | Val | Pro | Gln | Cys | Ala | Ala | Pro | Ser |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Phe | Asp | Cys | Gly | Lys | Pro | Gln | Val | Glu | Pro | Lys | Lys | Cys | Pro | Gly | Arg |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Val | Val | Gly | Gly | Cys | Val | Ala | His | Pro | His | Ser | Trp | Pro | Trp | Gln | Val |
|     |     |     | 565 |     |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Ser | Leu | Arg | Thr | Arg | Phe | Gly | Met | His | Phe | Cys | Gly | Gly | Thr | Leu | Ile |
|     |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Ser | Pro | Glu | Trp | Val | Leu | Thr | Ala | Ala | His | Cys | Leu | Glu | Lys | Ser | Pro |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Arg | Pro | Ser | Ser | Tyr | Lys | Val | Ile | Leu | Gly | Ala | His | Gln | Glu | Val | Asn |
|     | 610 |     |     |     |     | 615 |     |     |     |     |     | 620 |     |     |     |
| Leu | Glu | Pro | His | Val | Gln | Glu | Ile | Glu | Val | Ser | Arg | Leu | Phe | Leu | Glu |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Pro | Thr | Arg | Lys | Asp | Ile | Ala | Leu | Leu | Lys | Leu | Ser | Ser | Pro | Ala | Val |
|     |     |     | 645 |     |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Ile | Thr | Asp | Lys | Val | Ile | Pro | Ala | Cys | Leu | Pro | Ser | Pro | Asn | Tyr | Val |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
| Val | Ala | Asp | Arg | Thr | Glu | Cys | Phe | Ile | Thr | Gly | Trp | Gly | Glu | Thr | Gln |
|     |     | 675 |     |     |     |     | 680 |     |     |     |     |     | 685 |     |     |

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Phe | Gly | Ala | Gly | Leu | Leu | Lys | Glu | Ala | Gln | Leu | Pro | Val | Ile |
| 690 |     |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Glu | Asn | Lys | Val | Cys | Asn | Arg | Tyr | Glu | Phe | Leu | Asn | Gly | Arg | Val | Gln |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Ser | Thr | Glu | Leu | Cys | Ala | Gly | His | Leu | Ala | Gly | Gly | Thr | Asp | Ser | Cys |
|     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |
| Gln | Gly | Asp | Ser | Gly | Gly | Pro | Leu | Val | Cys | Phe | Glu | Lys | Asp | Lys | Tyr |
|     |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |
| Ile | Leu | Gln | Gly | Val | Thr | Ser | Trp | Gly | Leu | Gly | Cys | Ala | Arg | Pro | Asn |
|     |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
| Lys | Pro | Gly | Val | Tyr | Val | Arg | Val | Ser | Arg | Phe | Val | Thr | Trp | Ile | Glu |
|     | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |
| Gly | Val | Met | Arg | Asn | Asn |     |     |     |     |     |     |     |     |     |     |
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 <221> SITE  
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 <223> Lys is Lys-NH<sub>2</sub>.3TFA  
  
 <400> 42  
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   1                  5  
  
 <210> 43  
 <211> 7  
 <212> PRT  
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<220>
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<400> 43
Arg Lys Leu Tyr Asp Tyr Lys
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<210> 44
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<221> SITE
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<223> Arg is NAc-Arg

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<400> 46

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<222> 8

<223> Lys is Lys-(N-MPA)-NH<sub>2</sub>.2TFA; MPA is attached to  
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<400> 47

Pro Arg Lys Leu Tyr Asp Tyr Lys  
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<210> 48

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 Pro Arg Lys Leu Tyr Asp Tyr  
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Pro Arg Lys Leu Tyr Asp Tyr  
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<221> SITE  
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<223> Lys is Lys-(N-MPA)-NH<sub>2</sub>.TFA; MPA is attached to the  
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1 5 10

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<400> 60

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 Arg Lys Leu Tyr Asp Tyr  
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<400> 62  
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 1 5

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Pro Arg Lys Leu Tyr Asp  
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Pro Arg Lys Leu Tyr Asp Lys  
1 5